# SERVICE TABLES

# 5. SERVICE TABLES

## 5.1 SERVICE PROGRAM MODE

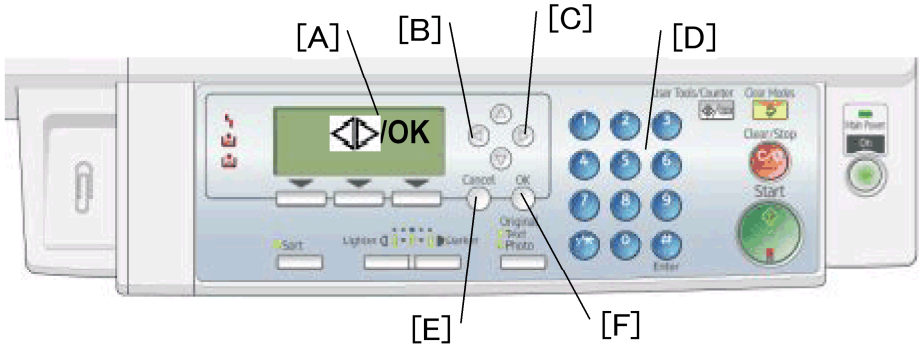
Note

- Do not allow the user to access the SP mode. Only service representatives are allowed to access the SP mode. The machine quality and its operation is NOT guaranteed if persons other than service representatives accesses the SP mode.

### 5.1.1 HOW TO ENTER THE SP MODE

The following two modes are available:

1. SP Mode (Service Program Mode): The SP Mode includes the programs that are necessary for standard maintenance work.
2. SSP Mode (Special SP Mode): The SSP Mode includes SP-Mode programs and some special programs. You need some extra knowledge to manipulate these special programs. For details, consult your supervisor.




**Starting SP Mode**

1. Type the keys as follows: [Clear Modes] > [1] > [0] > [7]
2. Press the [Clear/Stop] key and hold it down until the SP-mode menu is displayed (about 3 seconds).

**Starting SSP Mode**

For the basic machine (the machine without the optional controller box), perform as listed in steps 1 through 4. For the DDST machine (the machine with the optional controller box), perform as listed in steps 1 through 5.

1. Type the keys as follows: [Clear Modes] > [1] > [0] > [7]
2. Press the ⏲ key and hold it down until the SP-mode menu shows (about 3 seconds).
3. Press the [Enter] key and hold it down.
4. While holding down the [Enter] key, press the [1] key (on the numeric keypad).
5. While holding down the [Enter] key, press the "OK" key.

**Selecting Programs**

1. When a blinking underscore (or several blinking underscores) shows, you can type a number from the numeric keypad [D].
2. When the sign "◄►/OK" [A] shows in the upper right corner, you can scroll through the menu by pressing the left-arrow key [B] or the right-arrow key [C]. To select a program, press the "OK" key [F].

**Specifying Values**

1. After locating a program, press the "OK" key. A blinking underscore (or several blinking underscores) indicates which value you can change. The value in parentheses is the default value of the menu.
2. Type a necessary value from the numeric keypad. To switch between positive (plus) and negative (minus) values, press the [./*] (period/asterisk) key.
3. To validate the value, press the "OK" key. To cancel the value, press the cancel key [E].

### Activating Copy Mode

You can activate the copy mode while the SP mode is running. When you do so, the copier outputs images or patterns that help you adjust the SP-mode program.

1. Press the key. The copy mode is activated.
2. Specify copy settings and press the "OK" key.
3. To return to the SP mode, press the key.

Note

- You cannot end the SP mode while the copy mode is activated.

### Quitting Programs/Ending (S)SP Mode

Press the key or the "Cancel" key to quit the program. You can end the SP mode by pressing one of these keys several times.

# 5.2 SP MODE TABLES

The following codes are used:

1. Asterisk (*): The settings are saved in the NVRAM. Most of them return to the default values when you execute SP 5801 2
2. The DFU menu is for design or factory use only. You must not change the settings.
3. Brackets ([ ]): The brackets enclose the setting rage, default value, and minimum step (with unit) as follows: [Minimum  Maximum / Default / Step].
4. SSP: The program is in the SSP Mode only. Consult your supervisor before you use this program.

## 5.2.1 SP1-XXX (FEED)

| | | |
|---|---|---|
| **1001*** | Leading Edge Registration | |
| | Adjusts the printing leading-edge registration from paper trays. | |
| 1001 1 | All Trays | [–9.0 ~ 9.0 / **0.0** / 0.1 mm/step] (☛p.3-60) |
| 1001 2 | By-pass | |
| 1001 3 | Duplex | |

| | | |
|---|---|---|
| **1002*** | Side-to-Side Registration | |
| | Adjusts the printing side-to-side registration from each paper feed station, using the Trimming Area Pattern (SP 5902, No.10). Adjustments are supported for all 4 possible feed trays (including optional trays).<br>The SP 1002 1 setting is applied to all trays, not just the 1st tray. Settings for trays 2 to 4 are offsets relative to the SP 1002 1 setting.<br>For duplex copies, the value for the front side is determined by SP 1002 1 to 4, and the value for the rear side is determined by SP 1002 6. | |
| 1002 1 | 1st tray | [–9.0 ~ 9.0 / **0.0** / 0.1 mm/step] (☛ p.3-60) |
| 1002 2 | 2nd tray | |
| 1002 3 | 3rd tray | |
| 1002 4 | 4th tray | |
| 1002 5 | By-pass | |
| 1002 6 | Duplex | |

| | | |
|---|---|---|
| **1003*** | Paper Feed Timing | |
| | Adjusts the amount of buckle the paper feed clutch applies to the paper after the registration sensor is activated. A higher setting applies greater buckling. | |
| 1003 1 | 1st tray | [0 ~ 10 / **5** / 1 mm/step] |
| 1003 2 | 2nd tray (B276/B277 only) | [0 ~ 10 / **5** / 1 mm/step] |
| 1003 3 | Optional tray | [0 ~ 10 / **5** / 1 mm/step] |
| 1003 4 | By-pass feed | [0 ~ 10 / **6** / 1 mm/step] |
| 1003 5 | Duplex | [0 ~ 20 / **6** / 1 mm/step] |

| | | |
|---|---|---|
| **1007** | Display By-pass | |
| 1007 1 | Display By-pass | Displays the by-pass paper width switch output. |

| | | |
|---|---|---|
| **1103*** | Fusing Idling | |
| | This program decides the action of the Fusing Drive Release Mechanism. When you select "1," the contact/release control is disabled and the drive power is always transmitted to the fusing unit. As a result, the machine takes a longer time to warm up the fusing unit. Use SP 1103 1 if fusing quality is low even when the room temperature is not very low. | |
| 1103 1 | Fusing Idling | [**0 = No** / 1 = Yes] |

| | | |
|---|---|---|
| **1105*** | Fusing Temperature Adjustment | |
| | Adjusts the target fusing temperature. "Center" indicates the center of the roller; "End" indicates the front and rear ends. | |
| 1105 1 | Warm Up-Center | [140 ~ 180 / **160** / 1°C/step] |
| 1105 2 | Warm Up-End | |
| 1105 3 | Standby-Center | [140 ~ 170 / **155** / 1°C/step] |
| 1105 4 | Standby-End | [140 ~ 165 / **150** / 1°C/step] |
| 1105 5 | Copying-Center | [140 ~ 185 / **160** / 1°C/step] |
| 1105 6 | Copying-End | |
| 1105 7 | Low Level 2-Center | [0 ~ 80 / **60** / 1°C/step] |
| 1105 8 | Low Level 2-End | |
| 1105 9 | Thick-Center | [140 ~ 185 / **175** / 1°C/step] |
| 1105 10 | Thick-End | |
| 1105 11 | Warm Up Low-Center | [140 ~ 180 / **170** / 1°C/step] |
| 1105 12 | Warm Up Low-End | |

| | |
|---|---|
| **1106** | Display Fusing |
| 1106 1 | Displays the fusing temperature (center) |
| 1106 2 | Displays the fusing temperature (end) |

| | | |
|---|---|---|
| **1107*** | Fusing Soft Start | |
| | Adjusts the number of zero-cross cycles of the fusing lamp AC supply needed to bring the fusing lamp power to 100% while bringing the lamp up to the standby temperature or while copying. Increase this value if the machine is experiencing sudden power dropouts (☛ p.6-61). | |
| 1107 1 | Warm Up Soft Start | [0 = 10 cycles / **1 = 20 cycles** / 2 = 50 cycles] |
| 1107 2 | Other Soft Start | [0 = 5 cycles / **1 = 10 cycles** / 2 = 20 cycles] |

| | | |
|---|---|---|
| **1108*** | Set-Fusing Start | [0 = 1s / **1 = 1.5s** / 2 = 2s] |
| 1108 1 | Specifies the interval for fusing-temperature control (☛ p.6-61). | |

| | |
|---|---|
| **1109** | Nip Band Check |
| 1109 1 | Checks the fusing nip band (☛ p.3-48). |

| **1110*** | Fan Control Timer |
|---|---|
| 1110 1 | [30 ~ 60 / **30** / 1 s/step]<br>Inputs the fan control time. The fan maintains normal speed for the specified time after occurrence of an SC or following entry into Warm-up mode, Low Power mode, or Night/Off mode. |

| **1159*** | Fusing Jam SC Code Setting | **0=No** 1=Yes |
|---|---|---|
| 1159 1 | This SP mode detects SC559. Set this SP mode to 'Yes' if the machine experiences paper jam problems on a continual basis. | |

| **1902** | Display-AC Freq. |
|---|---|
| 1902 1 | Displays the fusing lamp power control frequency (as detected by the zero cross signal generator). The displayed value is 1/5 the actual frequency: 10 = 50 Hz, 12 = 60 Hz. |

| **1903*** | Feed Clutch Boost | |
|---|---|---|
| | Adjusts the amount of extra push that the feed clutch gives to the paper after the skew has been corrected at registration. This feature helps the registration roller feed certain types of paper (such as thick paper). Increase the value if thick paper is jamming after feeding from the registration roller. | |
| 1903 1 | By-pass tray | [0 ~ 10 / **6** / 1 mm/step] |
| 1903 2 | 2nd, 3rd, 4th tray | [0 ~ 10 / **3** / 1 mm/step] |

| **1908*** | Optional Tray Adj. | |
|---|---|---|
| | Adjusts the reverse time for the upper and lower paper lift motors. | |
| 1908 1 | 1st optional | [–2 ~ +2 / **0** / 1/step] |
| 1908 2 | 2nd optional | (☛ p.7-12) |

| **1911*** | By-pass Envelope |
|---|---|
| 1911 1 | [**0 = Disabled** / 1= Enabled<br>The program dedicated to envelope printing runs when you enable this program (SP 1911 1) and you select "Thick Paper" as the paper type of the by-pass tray (System Settings > Tray Paper Settings > Paper Type: Bypass Tray). |

## 5.2.2 SP2-XXX (DRUM)

| | | |
|---|---|---|
| **2001*** | Charge Roller Bias Adjustment | |
| 2001 1 | Printing | [–2100 ~ –1500 / **–1700** / 1 V/step] |
| | Adjusts the voltage applied to the charge roller when printing. The actually applied voltage changes automatically as charge roller voltage correction is carried out. The value you set here becomes the base value on which this correction is carried out. | |
| 2001 2 | ID sensor pattern | [0 ~ 400 / **300** / 1 V/step] |
| | Adjusts the voltage applied to the charge roller when generating the Vsdp ID sensor pattern (as part of charge roller voltage correction). The actual charge-roller voltage is obtained by adding this value to the value of SP 2001 1. | |

| | | |
|---|---|---|
| **2101*** | Erase Margin Adjustment | |
| 2101 1 | Leading edge | [0.0 ~ 9.0 / **2.0** / 0.1 mm/step] (☛ p.3-60)<br>Specification: 2 ± 1.5 mm |
| | Adjusts the leading edge erase margin. | |
| 2101 2 | Trailing | [0.0 ~ 9.0 / **3.0** / 0.1 mm/step] (☛ p.3-60)<br>Specification: 2 +2.5/–1.5 mm |
| | Adjusts the trailing edge erase margin. The rear trailing edge is this value plus 1.2 mm. | |
| 2101 3 | Left side | [0.0 ~ 9.0 / **2.0** / 0.1 mm/step] (☛ p.3-60)<br>Specification: 2 ± 1.5 mm |
| | Adjusts the left edge erase margin. The rear left edge is this value plus 0.3 mm. | |
| 2101 4 | Right side | [0.0 ~ 9.0 / **2.0** / 0.1 mm/step] (☛ p.3-60)<br>Specification: 2 +2.5/–1.5 mm |
| | Adjusts the right edge erase margin. The rear right edge is this value plus 0.3 mm. | |

| **2201*** | Development Bias Adjustment | |
|---|---|---|
| 2201 1 | Printing | [–1500 ~ –200 / **–650** / 1 V/step] |
| | Adjusts the voltage applied to the development roller when printing. This can be adjusted as a temporary measure if faint copies are being produced due to an aging drum. | |
| 2201 2 | ID sensor pattern | [–2 = LL (220 V) / **-1 = L (260 V**) / 0 = N (300 V) / 1 = H (340 V) / 2 = HH (380 V)] |
| | Adjusts the voltage applied to the development roller when generating the ID sensor pattern. The actual voltage applied is this setting plus the value of SP 2201 1. The setting affects ID sensor pattern density, which in turn affects the toner supply. | |

| **2213*** | Outputs after Near End |
|---|---|
| 2213 1 | [**0 = 50 pages** / 1 = 20 pages]<br>Sets the number of copy/print pages that can be made after toner near-end has been detected. Reduce the number of pages if the user normally makes copies with a high image ratio. |

| **2214** | Developer Initialization |
|---|---|
| 2214 1 | Initializes both the TD sensor toner supply target voltage and the TD sensor gain value. Carry this out after replacing the developer or the TD sensor. |

| **2220** | TD Sensor Output Value Display |
|---|---|
| 2220 1 | Displays:<br>1. Vt: the current TD sensor output value and<br>2. Vref: the target TD output value Vts (SP 2926) + correction for ID sensor output.<br>The TD sensor output value changes every copy. If 1 > 2, toner is supplied to the development unit. |

| | | |
|---|---|---|
| **2221** | ID Sensor Error Analysis | |
| 2221 1 | Vsg | Displays the Vsg value. |
| 2221 2 | Vsp | Displays the Vsp value. |
| 2221 3 | PWM | Displays the PWM value. |
| 2221 4 | Vsdp | Displays the Vsdp value. |
| 2221 5 | Vt | Displays the Vt value. |
| 2221 6 | Vts | Displays the Vts value. |

| | | |
|---|---|---|
| **2301*** | Transfer Current Adjustment | |
| 2301 1 | Normal paper | [–2 = –4 mA / **–1 = –2 mA** / 0 = 0 mA / 1 = 2 mA / 2 = +4 mA] |
| | Adjusts the current applied to the transfer roller when feeding from a paper tray. Use a high setting if the user normally feeds relatively thick paper (within spec) from a paper tray (☛ p.6-55). | |
| 2301 2 | Thick/Special paper | [–2 = –4 mA / **–1 = –2 mA** / 0 = 0 mA / 1 = 2 mA / 2 = +4 mA] |
| | Adjusts the current applied to the transfer roller when feeding from the by-pass tray. Use a high setting (a) if the user normally feeds relatively thick paper from the by-pass tray, or (b) if waste toner is re-attracted from the drum (which can occur when using transparencies). (☛ p.6-55) | |
| 2301 3 | Duplex | [–2 = –4 mA / **–1 = –2 mA** / 0 = 0 mA / 1 = 2 mA / 2 = +4 mA] |
| | Adjusts the current applied to the transfer roller when carrying out a duplex job. Use this SP if there is poor image transfer on the rear side of duplex copies (☛ p.6-55). | |
| 2301 4 | Cleaning | [–10 ~ 0 / **–1** / 1 mA/step] |
| | Adjusts the current applied to the transfer roller for roller cleaning. Increase the current if toner remains on the roller after cleaning. (Remaining toner may cause dirty background on the rear side.) (☛ p.6-55) | |

| **2802** | Forced Developer Churning |
|---|---|
| 2802 1 | Initializes the developer and checks the TD sensor output (Vt). The machine mixes the developer for 2 minutes while reading and displaying the Vt value. The machine does not initialize the TD sensor output. If the machine has not been used for a long period of time, prints may have a dirty background. In this case, use this SP mode to mix the developer. The message "Completed" is displayed when the program ends normally. |

| **2906*** | Tailing Correction | |
|---|---|---|
| 2906 1 | Shift value | [0.0 ~ 1.0 / **0.0** / 0.1 mm/step] |
| | Shifts the image writing position in intervals specified by SP 2906 2. When making many copies of an original that contains vertical lines (such as in tables), the paper may not separate correctly. This can cause tailing images (ghosts of the vertical lines continuing past the bottom of the table). This SP can be used to prevent this. | |
| 2906 2 | Interval | [1 ~ 10 / **1** / 1 page/step] |
| | Changes the interval for the image shift specified by SP 2906 1. | |

| **2908** | Forced Toner Supply |
|---|---|
| 2908 1 | Forces the toner bottle to supply toner to the toner supply unit. Press “1” to start. The machine continues to supply toner until the toner concentration in the development unit reaches the standard level, or for up to 2 minutes (whichever comes first). |

| **2915*** | Polygon Mirror Motor Idling Time |
|---|---|
| 2915 1 | [0 = None / **1 = 15 s** / 2 = 25 s]<br>Selects the polygon mirror motor idling time. To increase the speed of the first copy, the mirror motor begins idling when the user sets an original, touches a key, or opens the platen cover or DF. If this setting is left at the default (15 s), the motor will stop if the user does nothing for 15s. If the setting is “0”, the motor will not switch off during standby. (But note that regardless of the setting, the motor will switch off when the machine enters energy saver mode.) |

| **2921*** | Toner Supply Mode |
|---|---|
| 2921 1 | [**0 = Sensor 1** / 1 = Sensor 2 (**DFU**) / 2 = Fixed 1 (**DFU**) / 3 = Fixed 2]<br>Selects the toner supply mode. Under normal conditions this should be set to "0". You can temporarily change this to "3" if the TD sensor is defective. Do not set to "1" or "2", as these are for design use only (☛ p.6-39). |

| **2922*** | Toner Supply Time |
|---|---|
| 2922 1 | [0.1 ~ 5.0 / **0.4** / 0.1 s/step]<br>Adjusts the toner supply motor ON time for Sensor 1 and Sensor 2 toner supply mode. Accordingly, this setting is effective only if SP 2921 is set to "0" or "1"<br>Raising this value increases the toner supply motor ON time. Set to a high value if the user tends to make many copies having high proportions of solid black image areas (☛ p.6-39). |

| **2923*** | Toner Recovery Time |
|---|---|
| 2923 1 | [3 ~ 60 / **30** / 1 s/step]<br>Adjusts the toner supply motor ON time used during toner recovery from Toner Near End or Toner End. This setting is effective only if SP 2921 is set to "0"<br>Since toner recovery is carried out in 3-second cycles, the input value should be a multiple of 3 (3, 6, 9...). (☛ p.6-39) |

| **2925*** | Toner Supply Rate |
|---|---|
| 2925 1 | Adjusts the toner supply time for fixed toner supply mode. This setting is effective only if SP 2921 is set to "2" or "3".[0 ~ 7 / 0]t = 200ms, and settings are as follows<br>0 = t , 1 = 2t, 2 = 4t, 3 = 8t, 4 = 12t, 5 = 16t,<br>6 = on continuously, 7 = 0 s<br>Raising this value increases the toner supply motor ON time. Set to a high value if the user tends to make many copies having high proportions of solid black image areas (☛ p.6-39). |

| **2926*** | Standard Vt |
|---|---|
| 2926 1 | [0.00 ~ 5.00 / **2.50** / 0.01 V/step] **DFU**<br>Adjusts Vts (the Vt value for new developer). The TD sensor output is adjusted to this value during the TD sensor initial setting process]. This SP is effective only when SP 2921 is “0”, “1”, or “2”. |

| **2927*** | ID Sensor Control |
|---|---|
| 2927 1 | [**0 = No** / 1 = Yes]<br>Selects whether the ID sensor is or is not used for toner density control. This value should normally be left at “1”. If the value is “0”, dirty background may occur after long periods of non-use. |

| **2928** | Toner End Clear |
|---|---|
| 2928 1 | Clears the toner end condition without adding new toner. The following are cleared:<br>1. Toner end indicator (goes out)·<br>2. Toner near-end counter<br>3. Toner near-end level<br>This function should generally not be used. If you clear the toner end condition without adding new toner, there is a risk that the drum may eventually begin to attract carrier after many more copies are made and toner runs out. This attracted carrier may damage the drum. |

| **2929*** | Vref Limits | |
|---|---|---|
| | Adjust the upper or lower Vref limit. | |
| 2929 1 | Upper | [0.50 ~ 3.50 / **3.20** / 0.01V/step] **DFU** |
| 2929 2 | Lower | [0.50 ~ 3.50 / **0.70** / 0.01V/step] **DFU** |

| **2994*** | ID Sensor Detection Temperature | [30 ~ 90 / **30** / 1 C/step] |
|---|---|---|
| 2994 1 | While the machine is recovering from an energy saver mode, or while the machine starts, the controller ignores the ID-sensor signals if the fusing temperature is at the specified value or higher. | |

| | |
|---|---|
| **2996*** | Transfer Roller Cleaning |
| 2996 1 | Selects whether the transfer roller is cleaned before each copy job. Set this to "1" if dirty background is appearing on the reverse side of the first page of copy jobs. Note that this will increase the time required to generate the first copy. If the setting is "0", the transfer roller is never cleaned (☛ p.6-56). |

| | | |
|---|---|---|
| **2997*** | Toner Density Sensor Standard Voltage | [0 / **2.5** / 5/ 0.01V/step] **DFU** |

| | | |
|---|---|---|
| **2998*** | Main Scan Magnification | [–0.5 ~ +0.5 / **0.0** / 0.1%/step] |
| 2998 1 | Adjusts the magnification along the main scan direction, for all print modes (copy, printing). The specification is 100 ± 1.0% (☛ p.3-60). | |

## 5.2.3 SP4-XXX (SCANNER)

| | | |
|---|---|---|
| **4008*** | Sub-Scan Magnification (Scanner) | [-0.9 ~ +0.9 / **0.0** / 0.1%/step] |
| 4008 1 | Adjusts the actual sub-scan direction scanning magnification. The higher the setting, the lower the scanner motor speed (☛ p.3-60). | |

| | | |
|---|---|---|
| **4009*** | Main Scan Magnification (Scanner) | [–0.9 ~ +0.9 / **0.0** / 0.1%/step] |
| 4009 1 | Adjusts the magnification along the main scan direction, for scanning.<br>The specification is 100 ± 1.0%<br>Main scan magnification is implemented in steps of 0.5. Accordingly, your input value should be a multiple of 0.5 (–1.0, –0.5, 0, +0.5, or +1.0) | |

| | | |
|---|---|---|
| **4010*** | Leading Edge Registration (Scanner) | [–5.0 ~ +5.0 / **0.0** / 0.1 mm/step] |
| 4010 1 | Adjusts the leading edge registration for scanning in platen mode (☛ p.3-60).<br>(–): The image moves toward the leading edge.<br>(+): The image moves toward the trailing edge·<br>The specification is 2 ± 1.5 mm. | |

| | | |
|---|---|---|
| **4011*** | Side-to-side Registration (Scanner) | [–4.2 ~ +4.2 / **0.0** / 0.1 mm/step] |
| 4011 1 | Adjusts the side-to-side registration for scanning in platen mode (☛ p.3-60<br>Increasing the value shifts the image to the right<br>The specification is 2 ± 1.5 mm. | |

| | | |
|---|---|---|
| **4012*** | Scan Erase Margin | |
| | Adjusts the scanning margin individually for each of the four edges. It is generally best to adjust the scanning margin as little as possible, and use the printing margin for image adjustments. | |
| 4012 1 | Leading edge | [0 ~ 9.0 / **1.0** / 0.1 mm/step] |
| 4012 2 | Trailing edge | |
| 4012 3 | Left | |
| 4012 4 | Right | |

| | |
|---|---|
| **4013** | Scanner Free Run |
| 4013 1 | Performs a scanner free run with the exposure lamp on. Press ON or to start. Press OFF to stop. |

| | | |
|---|---|---|
| **4015*** | White Plate Scanning | |
| 4015 1 | Start position | [–3.0 ~ +6.0 / **0.0** / 0.1 mm/step] |
| | Adjusts the scanning start position on the white plate for auto shading. The base value stored in the machine is 15.2 mm toward the white plate from the scanner HP. This SP setting specifies the offset from this base value. | |
| 4015 2 | Scanning length | [–3.0 ~ +6.0 / **0.0** / 0.1 mm/step] |
| | Adjusts the length of the white plate scan, in the main scan direction. The scan begins at the start position set above [in SP 4015 1] and extends for the specified length. The base value stored in the machine is 4.76 mm. This SP setting specifies the offset from this base value. | |

| | |
|---|---|
| **4301** | Display-APS Data |
| 4301 1 | Displays the status of the APS sensors and platen/DF cover sensor (☛ p.5-53). |

| | | |
|---|---|---|
| **4303*** | APS Small Size Original | [**0 = No** (not detected) / 1 = Yes (A5/HLT LEF)] |
| 4303 1 | Selects whether or not the copier will consider the original to be A5/HLT LEF when the APS sensors cannot detect its size. If “Yes” is selected, paper sizes that cannot be detected by the APS sensors are regarded as A5/HLT LEF. If “No" is selected, “Cannot detect original size” will be displayed. | |

| **4305*** | APS Priority | [0 = Normal / **1 = A4/LT** / 2 = 8K/16K] |
|---|---|---|
| 4305 1 | 1. A4/LT<br>1. North America model: When the ASP detects the LT size, the controller interprets it as the A4 size.<br>2. Other models: When the ASP detects the A4 size, the controller interprets it as the LT size. 2. 8K/16K (for the China model only)<br>3. When the ASP detects the A3/B4 SEF, the controller interprets it as the 8K SEF.<br>4. When the ASP detects the B5/A4 SEF, the controller interprets it as the 16K SEF.<br>5. When the ASP detects the B5/A4 LEF, the controller interprets it as the 16K LEF.<br>The Europe model interprets undetected original sizes as A5 LEF under the following conditions:<br>1. SP 4303 1 is "Yes," and<br>2. SP 4305 1 is "Normal"<br>The Europe model interprets undetected original sizes as LT SEF under the following conditions:<br>1. SP 4303 1 is "Yes," and<br>2. SP 4305 1 is "A4/LT" | |

| **4428** | Scan Auto-Adjustment |
|---|---|
| 4428 1 | Performs the automatic scanner adjustment. Use this SP mode after replacing the white plate. |

| | | |
|---|---|---|
| **4901** | SBU White Level Adjustment | |
| 4901 1 | Black Display-Error | [**0 = Normal** / 1 = Error] |
| | Displays the return code of the black-level adjustment. When an error is detected, SC143 or SC145 is generated. | |
| 4901 2 | Black Feedback-EVEN | [0 8191] |
| | Displays the feedback value of the even channels given by the SBU. Normally, the value is 1, 2, 3, ..., 8188, 8189, or 8190. However, machine may operate normally even when the value is 0 or 8191. | |
| 4901 3 | Black Feedback-ODD | [0 8191] |
| | Displays the feedback value of the odd channels given by the SBU. Normally, the value is 1, 2, 3, ..., 8188, 8189, or 8190. However, machine may operate normally even when the value is 0 or 8191. | |
| 4901 4 | Black Display-Target | [0 63 / **10** /step] |
| | Displays the target value for the black-level adjustment executed during machine initialization. Normally, the value is 10. Other values indicate that the adjustment has ended unsuccessfully. | |
| 4901 5* | White Target | [0 511 / **511** / 1/step] |
| | Displays the target value for the white-level adjustment. | |
| 4901 6 | White Result | [0 511 / **0** / 1/step] |
| | Displays the result of the white-level adjustment. | |
| 4901 8 | White Display-Error | [**0 = Normal** / 1 = Error] |
| | Displays the return code of the white-level adjustment. When an error is detected, SC143 is generated. | |
| 4901 9 | White Display-Overflow | [**0 = Normal** / 1 = Error] |
| | Displays a return code of the white-level adjustment. The code "1" (error) is returned if the adjustment result is not in the range of the values in SP 4901 6. | |

| | | |
|---|---|---|
| 4901 10 | White Number of Attempt | [0 20 / **0** / 1/step] |
| | Displays how many times the white-level adjustment is retried. The value does not include the first execution of the white adjustment. For example, if the value is "2", this indicates that the white-level adjustment has been executed three times. The white-level adjustment can be executed 20 times or less. Therefore, if the value is "20," this indicates that the white-level adjustment has ended abnormally (as described, the value "20" does not include the first execution). If the white-level adjustment is unsuccessful, the machine uses the result of the latest, successful white-level adjustment. | |
| 4901 11 | Auto Adjustment Setting | [222 281 / **256** / 1/step] |
| | Displays the parameter of the white-level adjustment. The value is based on the result of SP 4901 12. | |
| 4901 12 | Auto Adjustment-Result | [0 600 / **0** / 1/step] |
| | Displays the result of the white-level adjustment. Normally, the value is between 228 and 281 (including the both values). When the value is normal, it is stored as the value of SP 4901 11. | |
| 4901 14 | Auto Adjustment-Error | [**0 = Normal** / 1 = Error] |
| | Displays a return code of the white-level adjustment. The code "1" (error) is returned if the adjustment result value is less than 228 or larger than 281 (☛ SP490 12). | |

| | |
|---|---|
| **4902*** | Exposure Lamp ON |
| 4902 1 | Turns the exposure lamp on or off. To turn off the exposure lamp, select “OFF”. (The exposure lamp shuts off automatically after 180 seconds.) |

| | | |
|---|---|---|
| **4903*** | ADS Level | [0 255 / **252** / 1/step] |
| 4903 1 | Adjusts the ADS level. | |

| | | |
|---|---|---|
| **4904*** | ADS Lower Limit | [0 255 / **80** / 1/step] |
| 4904 1 | Adjusts the ADS lower limit. | |

| | | |
|---|---|---|
| **4905*** | ADS Level | [**0 = All** / 1 = One] |
| 4905 1 | Checks the whole area (0 = All) or the area between 15 mm and 90 mm from the left edge (1 = One) to adjust the ADS level. | |

| | | |
|---|---|---|
| **4921*** | Image Adj Selection | |
| 4921 1 | Image Adj Selection (Copy) | [0 ~ 10 / **0** / 1] |
| | Selects which mode the settings from SP 4922 to SP 4932 and are used for: 0 = None, 1 = Text 1, 2 =Text 2, 3= Photo 1, 4 = Photo 2, 5 = Photo 3, 6 = Special 1, 7 = Special 2, 8 = Special 3, 9 = Special 4, 10 = Special 5 | |

| | | |
|---|---|---|
| **4922*** | Scanner Gamma | |
| | Selects “text” or “photo” as the priority output mode. This setting is applied to all image processing modes of SP 4921. | |
| 4922 1 | Scanner Gamma (Copy) | [0=System default/**1=Text**/2=Photo] |
| 4922 3 | | |

| | | |
|---|---|---|
| **4923*** | Notch Selection | |
| | Selects the value of the center ID adjustment notch for the ID adjustment LEDs. Normally the center notch is 3 (range 1-5). If –1 is selected, each notch shifts down (becomes lighter). If +1 is selected, each notch shifts up (becomes darker).· This setting is applied to all image processing modes of SP 4921. | |
| 4923 1 | Notch Selection (Copy) | [–1 = Light / **0 = Normal** / +1 = Dark] |

| | | |
|---|---|---|
| **4926*** | Texture Removal | |
| | Adjusts the texture removal level that is used with error diffusion. 0: The default value for each mode is used. Text 1, Photo 2, Special 2, and Special 5 have a default of 3 and Photo 1, 3 have a default of 1.<br>1: No removal applied.<br>2 – 5: Removal applied at the level specified here. The higher the setting (level), the less clear the image will become (more texture removal). This setting is only applied to the originals in SP 4921. | |
| 4926 1 | Texture Removal (Copy) | [0 ~ 6 / **1**/step] |
| 4926 3 | Texture Removal (Scanner) | [0 ~ 6 / **1**/step] |

| | | |
|---|---|---|
| **4927*** | Line Width Correction | |
| | Adjusts the line width correction algorithm. Positive settings produce thicker lines; negative settings produce thinner lines. This setting is only applied to the originals in SP 4921. | |
| 4927 1 | Line Width Correction (Copy) | [–2 ~ 2 / **0** / 1/step] |
| 4927 3 | Line Width Correction (Scanner) | [–2 ~ 2 / **0** / 1/step] |

| | | |
|---|---|---|
| **4928*** | Independent Dot Erase | |
| | Selects the dot erase level. Higher settings provide greater erasure. This setting is only applied to the originals in SP 4921. | |
| 4928 1 | Independent Dot Erase (Copy) | [–2 ~ 2 / **0** / 1/step] |
| 4928 3 | Independent Dot Erase (Scanner) | [–2 ~ 2 / **0** / 1/step] |

| | | |
|---|---|---|
| **4929*** | Positive/Negative | [**0 = No**, 1 = Yes] |
| | Inverts white and black. This setting is only applied to the originals in SP 4921. | |
| 4929 1 | Positive/Negative (Copy) | |

| | | |
|---|---|---|
| **4930*** | Sharpness-Edge | [–2 ~ 2 / **0** / 1/step] |
| | Adjust the clarity. This setting is only applied to the originals in SP 4921. | |
| 4930 1 | Sharpness-Edge (Copy) | |
| 4930 3 | Sharpness-Edge (Scanner) | |

| | | |
|---|---|---|
| **4931*** | Sharpness-Solid | [–2 ~ 2 / **0** / 1/step] |
| | Adjust the clarity. This setting is only applied to the originals in SP 4921. | |
| 4931 1 | Sharpness-Solid (Copy) | |
| 4931 3 | Sharpness-Solid (Scanner) | |

| | | |
|---|---|---|
| **4932*** | Sharpness-Low ID | [–2 ~ 2 / **0** / 1/step] |
| | Adjust the clarity. This setting is only applied to the originals in SP 4921. | |
| 4932 1 | Sharpness- Low ID (Copy) | |

| | | |
|---|---|---|
| **4941*** | White Line Erase | [0 ~ 2 / **1** / 1/step] |
| 4941 1 | Selects the white line erase level.<br>0: None, 1: Weak, 2: Strong<br>This setting is effective only Photo 1, Photo 3, Special 3 or Special 4 mode.<br>0: White line erase is not used, and white level correction is used instead·<br>This setting is applied regardless of what mode has been selected in SP 4921. | |

| | | |
|---|---|---|
| **4942*** | Black Line Erase | [0 ~ 3 / **2** / 1/step] |
| 4942 1 | Selects the black line erase level. This setting is effective only when originals are scanned by the A(R)DF.<br>[0 = No / 1 = Very weak / 2 = Weak / 3 = Strong]<br>This setting is applied regardless of what mode has been selected in SP 4921. | |

## 5.2.4 SP5-XXX (MODE)

| | |
|---|---|
| **5001** | All Indicators On |
| 5001 1 | All LEDs turn on. The LCD turns on or off every 3 seconds. Press the reset key to end this program. |

| | | |
|---|---|---|
| **5045*** | [Accounting count] | [0 to 1 / **1** / -]<br>0: Developments, 1: Pages |
| 5045 1 | Selects the counting method to either developments or prints. | |

| | | |
|---|---|---|
| **5104*** | A3/DLT Double Count | [**0 = Enabled** / 1 = Disabled /<br>2 = Disabled if the size is undetected] |
| 5104 1 | Selects whether the machine counts twice for each sheet of A3/11"x 17". If this is set to “Yes” is selected, the total (mechanical) counter and the current user counter will both increment by two for each A3/11" x 17" sheet. | |

| | | |
|---|---|---|
| **5113*** | Optional Counter Type | **0: None**<br>11: MF key card (Increment)<br>12: MF key card (Decrement) |
| 5113 1 | Selects the corresponding key for installed devices such as coin lock. | |

| | | |
|---|---|---|
| **5120*** | Clr-OP Count Remv | [0=Yes / **1=Standby only** / 2=No] |
| 5120 1 | Determines under which conditions the copy job settings are reset when the key counter is removed. With 0, the settings are cleared if the counter is removed at the end of a job or midway through a job. With 1, they are only cleared if the counter is removed at the end of a job. With 2, they are not cleared at all, under either condition. With duplex copies, the job settings are always preserved, regardless of the setting of this SP mode. | |

| | | |
|---|---|---|
| **5121*** | Count Up Timing | [**0 = Feed In** / 1 = Exit] |
| 5121 1 | Selects whether the key counter increments at time of paper feed-in or at time of paper exit. | |

| | | |
|---|---|---|
| **5127*** | APS Mode | [**0 = Enabled** / 1 = Disabled] |
| 5127 1 | Enables or disables the APS mode.. | |

| | | |
|---|---|---|
| **5501*** | PM Alarm Interval (Printout) | [0 ~ 9999 / **0** / 0K copies/step] |
| 5501 1 | Specifies when the PM alarm occurs. | |

| | |
|---|---|
| **5801** | Memory Clear |
| 5801 2 | Engine (☛ p.5-37) |

| | |
|---|---|
| **5802** | Machine Free Run |
| 5802 1 | Starts a free run of both the scanner and the printer. Press "ON" to start; press "OFF" to stop. |

| | |
|---|---|
| **5803** | Input Check |
| | ( p.5-39) |

| | |
|---|---|
| **5804** | Output Check |
| | ( p.5-42) |

| **5807*** | Area Selection |
|---|---|
| 5807 1 | Selects the display language group.<br>1 = Japan, **2 = North America**, 3 = Europe, 4 = Taiwan, 5 = Asia,<br>6 = China, 7 = Korea<br>SP 5807 1 is not cleared by SP 5801 2 (☛ p.5-37). |

| **5811*** | Serial Num Input | |
|---|---|---|
| 5811 1 | Setting | Sets the machine serial number. **FA** |
| 5811 3 | ID 2 Code Display | Displays the ID 2 Code (used for NRS |

| **5812*** | Service TEL |
|---|---|
| 5812 1 | Service TEL (Telephone) |
| | Use this to input the telephone number of the service representative. (The number is displayed when a service call condition occurs.) To input a dash, press#. To delete the current telephone number, press C/C. |
| 5812 2 | Service TEL (Facsimile) |
| | Use this to input the fax number printed on user counter reports. To input a dash, press#. To delete the current fax number, press C/C. |

| **5824** | NVRAM Upload |
|---|---|
| 5824 1 | (☛ p.5-44) |

| **5825** | NVRAM Download |
|---|---|
| 5825 1 | (☛ p.5-44) |

| **5827** | Program Download |
|---|---|
| 5827 1 | Downloads programs to the machine |

| **5901** | Printer Free Run |
|---|---|
| 5901 1 | Executes the free run. Press "ON" to start; press "OFF" to stop. |

| **5902** | Test Pattern Print |
|---|---|
| 5902 1 | (☛ p.5-49) |

| **5907*** | Plug & Play Setting |
|---|---|
| 5907 1 | Selects the brand name and production name for the Plug and Play function. These names are registered in the NVRAM. If the NVRAM becomes defective, these names should be re-registered. Use the right-arrow or left-arrow key to scroll through the list of brand names. To select a brand name, press the OK key. An asterisk (*) indicates which manufacture is currently selected. (☛ p.5-37) |

| **5918*** | A3/DLT Counter Display | [**0 = Off** / 1 = On] |
|---|---|---|
| 5918 1 | Sets the key press display for the counter key. This setting has no relation to (SSP) SP5-104 A3/DLT Double Count. | |

| **5990** | SMC Print | |
|---|---|---|
| 5990 1 | All | (☛ p.5-52) |
| 5990 2 | SP | |
| 5990 3 | User Program | |
| 5990 4 | Logging Data | |
| 5990 5 | Big font | |

| **5993** | | **DFU** | |
|---|---|---|---|
| 5993 1 | | | |

| **5998** | Memory Clear |
|---|---|
| 5998 1 | Memory Clear |

## 5.2.5 SP6-XXX (PERIPHERALS)

| | | |
|---|---|---|
| **6006*** | ADF Adjustment (☛ p.3-64<br>NOTE: Available menus depend on the machine model and its configuration. | |
| 6006 1 | ADF Adjustment (StoS/Front Regist) | [–5.0 ~ +5.0 / **0.0** / 0.1 mm/step] |
| | Adjusts the side-to-side registration for the front side of the original, for ADF mode. Use the # key to select "+" or "–" before entering the value | |
| 6006 2 | ADF Adjustment (Leading Regist) | [–5.0 ~ +5.0 / **0.0** / 0.1 mm/step] |
| | Adjusts the leading edge registration for ADF mode. Use the # key to select "+" or "–" before entering the value. | |
| 6006 3 | ADF Adjustment (Trailing Erase) | [–3.0 ~ +3.0 / **–1.0** / 0.1 mm/step] |
| | Adjusts the trailing edge erase margin for ADF mode. Use the # key to select "+" or "–" before entering the value. | |
| 6006 4 | ADF Adjustment (StoS/Rear Regist) | [–5.0 ~ +5.0 / **0.0** / 0.5 mm/step] |
| | Adjusts the side-to-side registration for the rear side of duplex originals, for ADF mode. Use the # key to select "+" or "–" before entering the value. | |
| 6006 5 | ADF Adjustment (Sub-scan Magnif) | [–0.9 ~ +0.9 / **0.0** / 0.1 %/step] |
| | Adjust the sub-scan magnification for the ADF. | |
| 6006 6 | ADF Adjustment (Original Curl Adj) | [**0 = No** / 1 = Yes] |
| | Enables or disables the skew adjustment for the reverse sides of originals. When you enable SP6-006-6, adjust the distance of the skew adjustment (SP 6006 7). | |
| 6006 7 | ADF Adjustment (Skew Correction) | [–20 ~ +20 / **0** / 1 mm/step] |
| | Specifies the distance of the skew adjustment. SP 6006 7 is effective when you enable SP 6006 6 (ADF Adjustment [Original Curl Adj]). | |

| | |
|---|---|
| **6009** | ADF Free Run |
| 6009 1 | Performs an ADF free run. Press "ON" to start; press "OFF" to stop. |

| | | |
|---|---|---|
| **6010** | Stamp Position Adjustment | [–10 ~ +10 / **0** / 1 mm/step] |
| 6010 1 | Adjusts the stamp position in the sub-scan direction. for the fax mode. | |

| | |
|---|---|
| **6901** | Display ADF/APS |
| 6901 1 | Displays the status of the ADF original size sensors (☛ p.5-53). |

| | | |
|---|---|---|
| **6910*** | ADF Shading Time | [0 ~ 60 / **10** / 1 s/step] |
| 6910 1 | Adjusts the interval used for the shading processing in the ADF mode. Light and heat in the room may affect the scanner response. Reduce this setting if copy quality indicates that the white level is drifting during ADF copy jobs. | |

## 5.2.6 SP7-XXX (DATA LOG)

| | |
|---|---|
| **7001*** | Total Operation |
| 7001 1 | Shows the total operation time (total drum rotation time). |

| | | |
|---|---|---|
| **7401*** | Counter–SC Total | [0 ~ 9999 / **0** / 1/step] |
| 7401 1 | Shows how many times SC codes are generated. | |

| | |
|---|---|
| **7403*** | SC History |
| 7403 1 | Shows the histories of the latest 10 SC codes. |

| | | |
|---|---|---|
| **7502*** | Counter–Paper Jam | [0 ~ 9999 / **0** / 1/step] |
| 7502 1 | Shows the total number of copy paper jams. | |

| | | |
|---|---|---|
| **7503*** | Counter–Orgn Jam | [0 ~ 9999 / **0** / 1/step] |
| 7503 1 | Shows the total number of original jams, | |

| | | |
|---|---|---|
| **7504*** | Counter-Each P Jam | [0 ~ 9999 / **0** / 1/step] |
| | Displays the total number of the paper jams classified by timing and location. | |
| 7504 1 | Counter-Each P Jam (At power on) | |
| | Paper jam occurs at power on. | |
| 7504 10 | Counter-Each P Jam (Off-Regist NoFeed) | |
| | Paper does not reach the registration sensor (from a paper tray). | |
| 7504 11 | Counter-Each P Jam (Off-1 Vertical SN) | |
| | Paper does not reach the relay sensor. | |
| 7504 12 | Counter-Each P Jam (On-1 Vertical SN) | |
| | Paper is caught at the relay sensor. | |
| 7504 21 | Counter-Each P Jam (Off-2 Vertical SN) | |
| | Paper does not reach the vertical transport sensor. | |
| 7504 22 | Counter-Each P Jam (On-2 Vertical SN) | |
| | Paper is caught at the vertical transport sensor. | |

| | |
|---|---|
| 7504 31 | Counter Each P Jam (Off-3 Vertical SN) |
| | Paper does not reach the vertical transport sensor in the optional paper feed unit. |
| 7504 32 | Counter Each P Jam (On-3 Vertical SN) |
| | Paper is caught at the vertical transport sensor in the optional paper feed unit. |
| 7504 50 | Counter-Each P Jam (Off-Regist Bypass) |
| | Paper does not reach the registration sensor (from the by-pass tray). |
| 7504 60 | Counter-Each P Jam (Off-Regist Duplex) |
| | Paper does not reach the registration sensor during reverse-side printing (for duplex printing). |
| 7504 70 | Counter-Each P Jam (On-Regist SN) |
| | Paper is caught at the registration sensor. |
| 7504 120 | Counter-Each P Jam (On-Exit SN) |
| | Paper is caught at the exit sensor (previous page). |
| 7504 121 | Counter-Each P Jam (Off-Exit SN) |
| | Paper does not reach the exit sensor. |
| 7504 122 | Counter-Each P Jam (On-Exit SN) |
| | Paper is caught at the exit sensor. |
| 7504 123 | Counter-Each P Jam (Off-Dup Inverter) |
| | Paper does not reach the duplex inverter sensor (from the registration roller). |
| 7504 125 | Counter-Each P Jam (On-Dup Inverter) |
| | Paper is caught at the duplex inverter sensor. |
| 7504 126 | Counter-Each P Jam (Off-Dup Entrance) |
| | Paper does not reach the duplex entrance sensor. |
| 7504 127 | Counter-Each P Jam (Off-Dup Entrance) |
| | Paper is caught at the duplex entrance sensor. |
| 7504 128 | Counter-Each P Jam (Off-Duplex Exit) |
| | Paper does not reach the duplex exit sensor. |
| 7504 129 | Counter-Each P Jam (On-Duplex Exit) |
| | Paper is caught at the duplex exit sensor. |

| | |
|---|---|
| 7504 130 | Counter-Each P Jam (Off-1 bin Exit SN) |
| | Paper does not reach the one-bin tray. |
| 7504 131 | Counter-Each P Jam (On-1 bin Exit SN) |
| | Paper is caught at the one-bin tray. |

| | | |
|---|---|---|
| **7505*** | Counter-Each O Jam | [0 ~ 9999 / **0** / 1/step] |
| | Displays the total number of the original jams on the ADF that have occurred at a certain timing or at a certain location. | |
| 7505 210 | Counter-Each O Jam (Off-Regist SN) | |
| | The original does not reach the registration sensor. | |
| 7505 211 | Counter-Each O Jam (On-Regist SN) | |
| | The original is caught at the registration sensor. | |
| 7505 212 | Counter-Each O Jam (Off-Relay SN) | |
| | The original does not reach the exit sensor. | |
| 7505 213 | Counter-Each O Jam (On-Relay SN) | |
| | The original is caught at the exit sensor. | |
| 7505 214 | Counter-Each O Jam (Off-Inverter SN) | |
| | The original does not reach the reverse sensor. | |
| 7505 215 | Counter-Each O Jam (On Inverter SN) | |
| | The original is caught at the reverse sensor. | |
| 7505 216 | Counter-Each O Jam (Insufficient gap) | |
| | The distance between originals is not sufficient. This jam can occur when the original is not of the standard size. | |

| | |
|---|---|
| **7507*** | Dsply-P Jam Hist |
| 7507 1 | Displays the latest 10 paper-jam history. The list below shows the possible 22 codes:<br>1, 10, 11, 12, 21, 22, 31, 32, 50, 60, 70, 120, 121, 122, 123, 125, 126, 127, 128, 129, 130, 131<br>The codes correspond to the menus of SP 7504. For example, the code 1 corresponds to SP 7504 1, and the code 10 corresponds to SP 7504 10. |

| **7508*** | Dsply-O Jam Hist |
|---|---|
| 7508 1 | Displays the total number of the original-jams history. The following are the possible seven codes:<br>210, 211, 212, 213, 214, 215, 216<br>The codes correspond to the menus of SP 7505. For example, the code 210 corresponds to SP 7505 210, and the code 211 corresponds to SP 7505 211. |

| **7801** | Memory/Version/PN |
|---|---|
| 7801 2 | Memory/Version (BICU) |
| | Displays the version of the BICU board |
| 7801 5 | Memory/Version (ADF) |
| | Displays the P/N and suffix of the ADF ROM. |
| 7801 15 | Memory/Version (Printer/Scanner) |
| | Displays the P/N and suffix of the Printer/Scanner ROM. |

| **7803*** | Display–PM Count |
|---|---|
| 7803 1 | Displays the PM counter. |

| **7804** | Reset–PM Counter |
|---|---|
| 7804 1 | Resets the PM counter (SP 7803 1). When the program ends normally, the message "Completed" is displayed. |

| **7807** | Reset–SC/Jam Counters |
|---|---|
| 7807 1 | Resets the SC, paper, original, and total jam counters. When the program ends normally, the message "Completed" is displayed. SP 7807 1 does not reset the following logs: SP 7507 (Display-Paper Jam History) and SP 7508 (Display-Original Jam History). |

| **7808** | Reset–Counters |
|---|---|
| 7808 1 | Resets all counters except for the management counters. The management counters are the counters that are not changed by NVRAM Download (SP 5825 1) When the program ends normally, the message the message "Completed" is displayed. |

| | |
|---|---|
| **7810** | Reset–Key Op Code |
| 7810 1 | Resets the key operator code. Use SP 7810 1 when the customer has forgotten the key-operator code. When the program ends normally, the message "Completed" is displayed, if the program ends abnormally, an error message is displayed. If the customer forgets the key operator code. To specify a new key-operator code, use the User Tools: System Settings → Key Operator Tools → Key Operator Code → On → Enter Key Operator Code. |

| | |
|---|---|
| **7832*** | Display-Self-Diag |
| 7832 1 | Displays the SC codes and the number of their occurrences. Each number is in the range of 0 to 9999. |

| | |
|---|---|
| **7991*** | Dsply–Info Count |
| | Displays the total operating time or the total number of operations. The time is displayed in the following format: day:hour:minute:second. |
| 7991 1 | Dsply–Info Count (Dsply-Timer Count) |
| | The total of the time when the main switch is kept on (excluding the time when the safety switch is off (☛ p.6-29). |
| 7991 2 | Dsply–Info Count (Dsply-APS Working) |
| | The total of the time when the APS is working. |
| 7991 3 | Dsply-Info Count (Dsply-ID S Work) |
| | The total of the time when the ID sensor is working. |
| 7991 4 | Dsply-Info Count (Dsply-Dev Counter) |
| | The total number of paper outputs. |
| 7991 5 | Dsply-Info Count (Dsply-ID Er Count) |
| | The total number of ID-sensor errors. |

| | |
|---|---|
| **7992*** | Reset–Info Count |
| 7992 1 | Reset–Info Count (Reset-Timer Count) |
| | Clears the counter of SP 7991 1. |
| 7992 5 | Reset-Info Count (Reset-ID Er Count) |
| | Clears the counter of SP 7991 5. |

## 5.2.7 SP8-XXX (HISTORY)

| | | |
|---|---|---|
| **8191*** | T: Total Scan PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8191 1 | Displays the total number of scanned pages. Both sides are counted when the front and reverse sides of an original (fed from the ADF) are scanned. | |

| | | |
|---|---|---|
| **8192*** | C: Total Scan PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8192 1 | Displays the total number of scanned copies. Both sides are counted when the front and reverse sides of an original (fed from the ADF) are scanned. | |

| | | |
|---|---|---|
| **8195*** | S: Total Scan PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8195 1 | Displays the total number of scanned originals. Both sides are counted when the front and reverse sides of an original (fed from the ADF) are scanned. | |

| | | |
|---|---|---|
| **8201** | T: L Size Scan PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8201 1 | Displays the total number of scanned originals (by copying jobs and scanning jobs) classified by paper size. The following size is counted: A3/DLT and larger. | |

| | | |
|---|---|---|
| **8205** | S: L Size Scan PGS (A3/DLT, Larger) | [0 9999999 / **0** / 1 sheet/step] |
| 8205 1 | Displays the total number of scanned originals (by scanning jobs) classified by paper size. The following size is counted: A3/DLT and larger. | |

| | | |
|---|---|---|
| **8221*** | ADF Org Feed | [0 9999999 / **0** / 1 sheet/step] |
| 8221 1 | ADF Org Feed (Front) | |
| | Displays the total number of scanned front sides of originals fed from the ADF. | |
| 8221 2 | ADF Org Feed (Back) | |
| | Displays the total number of scanned reverse sides of originals fed from the ADF. | |

| | | |
|---|---|---|
| **8291*** | T: Scan PGS/TWAIN | [0 9999999 / **0** / 1 sheet/step] |
| 8291 1 | Displays the total number of sheets stamped by the ADF in scanning jobs. | |

| | | |
|---|---|---|
| **8293*** | F: Scan PGS/TWAIN | [0 9999999 / **0** / 1 sheet/step] |
| 8293 1 | Displays the total number of sheets stamped by the ADF in fax jobs. | |

| | | |
|---|---|---|
| **8381*** | T: Total Prt PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8381 1 | Displays the print count of all application programs. | |

| | | |
|---|---|---|
| **8382*** | C: Total Prt PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8382 1 | Displays the print count of the copier application program. | |

| | | |
|---|---|---|
| **8383*** | F: Total Prt PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8383 1 | Displays the print count of the fax application program. | |

| | | |
|---|---|---|
| **8384*** | P: Total Prt PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8384 1 | Displays the print count of the printer application program. | |

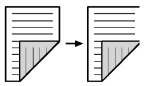
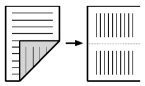
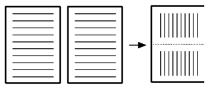
| | | |
|---|---|---|
| **8385*** | S: Total Prt PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8385 1 | Displays the print count of the scanner application program. | |

| | | |
|---|---|---|
| **8387*** | O: Total Prt PGS | [0 9999999 / **0** / 1 sheet/step] |
| 8387 1 | Displays the print count of application programs other than copier, printer, or scanner programs (such as external application programs). | |

| | | |
|---|---|---|
| **8391*** | L size Prt PGS (A3/DLT, Larger) | [0 9999999 / **0** / 1 sheet/step] |
| 8391 1 | Displays the print count of the AS/DLT size or larger paper. | |

| | | |
|---|---|---|
| **8411*** | Prints/Duplex | [0 9999999 / **0** / 1 sheet/step] |
| 8411 1 | Displays the total count of the duplex printing. | |

| | | |
|---|---|---|
| **8422*** | C: PrtPGS/Dup Comb | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the total print count of copier application classified by combination/duple type. | |

| | | |
|---|---|---|
| 8422 1 | C: PrtPGS/Dup Comb (Simplex > Duplex) | Original Print |
| 8422 2 | C: PrtPGS/Dup Comb (Duplex > Duplex) | Original Print  |
| 8422 4 | C: PrtPGS/Dup Comb (Simplex Combine) | Original Print  |
| 8422 5 | C: PrtPGS/Dup Comb (Duplex Combine) | Original Print |
| 8422 6 | C: PrtPGS/Dup Comb (2>) | Original Print  |
| 8422 7 | C: PrtPGS/Dup Comb(4>) | Original Print |

| | | |
|---|---|---|
| **8441*** | T: PrtPGS/Ppr Size | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the total print count classified by paper size. This is the total for all application programs. | |
| 8441 1 | (A3) | |
| 8441 2 | (A4) | |
| 8441 3 | (A5) | |
| 8441 4 | (B4) | |
| 8441 5 | (B5) | |
| 8441 6 | (DLT) | |
| 8441 7 | (LG) | |
| 8441 8 | (LT) | |
| 8441 9 | (HLT) | |
| 8441 254 | Other (Standard) | |
| 8441 255 | Other (Custom) | |

| | | |
|---|---|---|
| **8442*** | C: PrtPGS/Ppr Size | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the number of pages printed by the copier application program. | |
| 8442 1 | (A3) | |
| 8442 2 | (A4) | |
| 8442 3 | (A5) | |
| 8442 4 | (B4) | |
| 8442 5 | (B5) | |
| 8442 6 | (DLT) | |
| 8442 7 | (LG) | |
| 8442 8 | (LT) | |
| 8442 9 | (HLT) | |
| 8442 254 | Other (Standard) | |
| 8442 255 | Other (Custom) | |

| | | |
|---|---|---|
| **8445*** | P: PrtPGS/Ppr Size | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the number of pages printed by the copier application program. | |
| 8445 1 | (A3) | |
| 8445 2 | (A4) | |
| 8445 3 | (A5) | |
| 8445 4 | (B4) | |
| 8445 5 | (B5) | |
| 8445 6 | (DLT) | |
| 8445 7 | (LG) | |
| 8445 8 | (LT) | |
| 8445 9 | HLT | |
| 8445 254 | Other (Standard) | |
| 8445 255 | Other (Custom) | |

| | | |
|---|---|---|
| **8451*** | C: PrtPGS/Ppr Tray | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the total print count classified by paper source. | |
| 8451 1 | Bypass Tray | |
| 8451 2 | Tray 1 | |
| 8451 3 | Tray 2 | |
| 8451 4 | Tray 3 | |
| 8451 5 | Tray 4 | |

| | | |
|---|---|---|
| **8461*** | T: PrtPGS/Ppr Type | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the total print count classified by paper size. This is the total for all application programs. | |
| 8461 1 | Normal | |
| 8461 4 | Thick | |
| 8461 7 | OHP | |
| 8461 8 | Other | |

| | | |
|---|---|---|
| **8462*** | C: PrtPGS/Ppr Type | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the total print count classified by paper size. | |
| 8462 1 | Normal | |
| 8462 4 | Thick | |
| 8462 7 | OHP | |
| 8462 8 | Other | |

| | | |
|---|---|---|
| **8464*** | P: PrtPGS/Ppr Type | [0 9999999 / **0** / 1 sheet/step] |
| | Displays the total print count classified by paper size. This is the total for all application programs. | |
| 8464 1 | Normal | |
| 8464 4 | Thick | |
| 8464 7 | OHP | |
| 8464 8 | Other | |

| | | |
|---|---|---|
| **8522*** | C: PrtPGS/FIN (Sort) | [0 9999999 / **0** / 1 sheet/step] |
| 8522 1 | Displays the total number of printing classified by paper size. | |

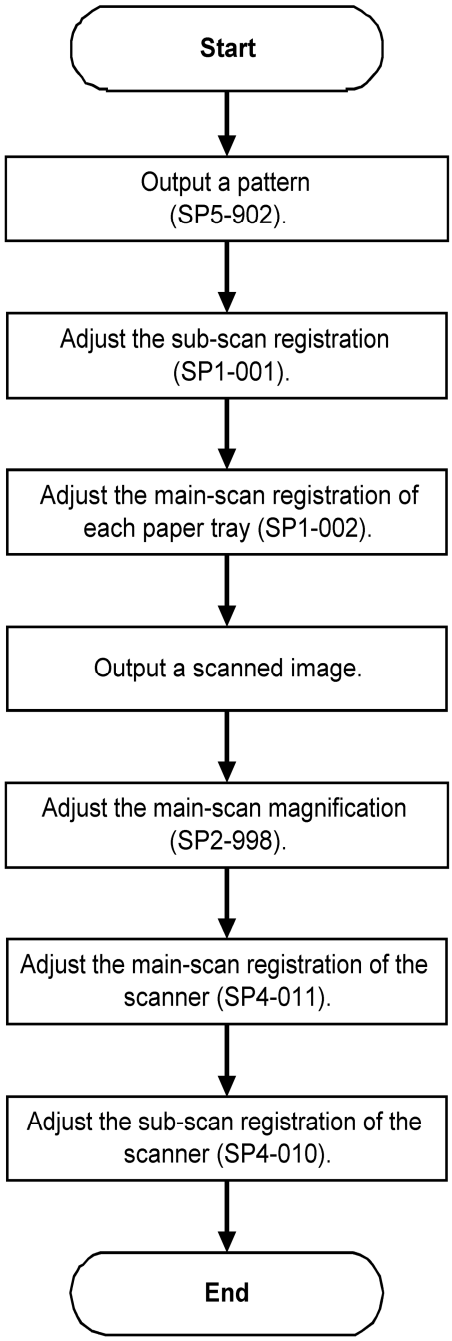
## 5.2.8 SP9-XXX (ETC.)

Not used in this machine.

# 5.3 USING SP MODES

## 5.3.1 ADJUSTING REGISTRATION AND MAGNIFICATION

To adjust the registration and magnification, you need to use several service programs. The chart shows an example of the procedure to adjust the machine in the basic configuration.


Start
Output a pattern (SP5-902).
Adjust the sub-scan registration (SP1-001).
Adjust the main-scan registration of each paper tray (SP1-002).
Output a scanned image.
Adjust the main-scan magnification (SP2-998).
Adjust the main-scan registration of the scanner (SP4-011).
Adjust the sub-scan registration of the scanner (SP4-010).
End

## 5.3.2 ID SENSOR ERROR ANALYSIS (SP 2221)

The image quality may become very degraded when the ID sensor does not operate properly. However, there is no such SC code that indicates ID-sensor malfunction. Instead, SP 2221 shows information about the ID sensor. Check this information when the image quality is unacceptable.

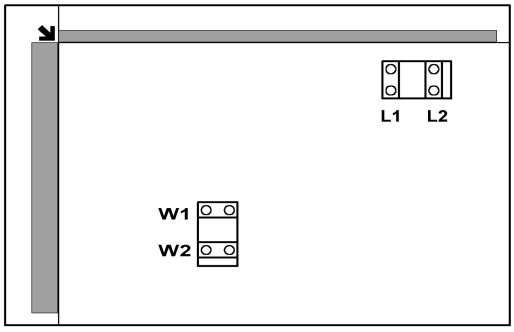
The table below lists the information shown with SP 2221 (ID Sensor Error Analysis).

| SP | Error condition | Possible cause | Remarks |
|---|---|---|---|
| SP 2221 1 Vsg<br>(VG in the display) | Vsg < 2.5V or<br>(Vsg – Vsp) < 1.00V | 1. ID sensor defective<br>2. ID sensor dirty<br>3. Drum not charged | |
| SP 2221 2 Vsp<br>(VP in the display) | Vsp > 2.5V or<br>(Vsg – Vsp) < 1.00V | 1. Toner density very low<br>2. ID sensor pattern not created | |
| SP 2221 3 Power<br>(PW in the display) | Vsg < 3.5V<br>when maximum power (979) is applied | 1. ID sensor defective<br>2. ID sensor dirty<br>3. Drum not get charged | Power source for the ID-sensor light |
| SP 2221 4 Vsdp | No Error Conditions | | |
| SP 2221 5 Vt | Vt > 4.5V or<br>Vt < 0.2V | 1. TD sensor defective | |
| SP 2221 6 Vts | | | |

## 5.3.3 DISPLAY APS DATA (SP 4301 1)

**- Sensor Positions -**

The APS (auto paper select) sensors are arranged as shown in the diagram.




**- Reading the Data -**

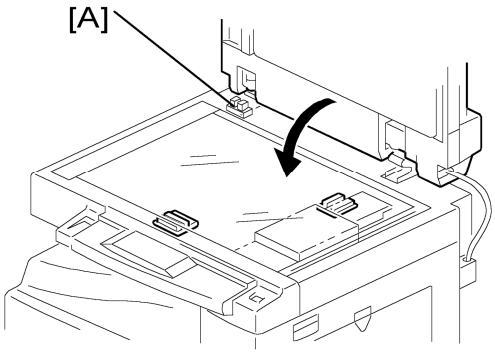
| Example 1 | Example 2 |
|---|---|
| 1. Paper Size: 11000000 $8^1/_2$x13 □ | 1. Paper Size: 00110000 A4 □ |
| 2. DF Open: 1 | 2. DF Open: 0 |

Example 1 indicates that the paper size and its orientation is "$8^1/_2$ x 13 SEF," and that the document feeder (or platen cover) is open. Example 2 indicates that the paper size and its orientation is "A4 LEF," and that the document feeder (or platen cover) is closed.

The "Paper Size" data starts with eight digits. The first digit indicates the output of L2; the second digit, L1; the third digit, W2; and the fourth digit, W1. The other four digits (from the fifth through the eighth) are always "0000." In Example 1, the APS sensors L2 and L1 detect paper (W2 and W1 do not).

In Example 2, APS sensors W2 and W1 detect paper (L2 and L1 do not). The paper size and its orientation is based on the outputs of these four APS sensors.

The "DF Open" data shows "1" or "0," indicating if the document feeder (or platen cover) is open or closed respectively. The data is based on the output of the platen cover sensor [A].



## 5.3.4 MEMORY CLEAR

The basic machine (the machine without the optional controller box) stores all the data in the NVRAM on the BICU. The data is cleared by SP 5801 2 (see list on the following page).

| | |
|---|---|
| 002 | Main Motor Reverse |
| 003 | Quenching Lamp |

The DDST machine (the machine with the optional controller box) stores the engine data in the NVRAM on the BICU, and stores the other data in the NVRAM on the optional controller. To distinguish between the engine data and the other data, see SP 5801 3 through 15. This service program (SP 5801) manages the controller data. Any data that is not handled by SP 5801 is the engine data. The data in the BICU NVRAM (engine data) is cleared by SP 5998 1, while the data in the controller NVRAM (controller data) is cleared by SP 5801-xxx (see list on the following page).

| | |
|---|---|
| 002 | Main Motor Reverse |
| 003 | Quenching Lamp |

| Machine | Data | NVRAM | Cleared by | Remarks |
|---|---|---|---|---|
| Basic | All data | BICU | SP 5801 2 | |
| DDST | Engine data | BICU | SP 5998 1 | Any data other than controller data |
| | Controller data | Controller | SP 5801-xxx | SCS, IMH, MCS, Copier application, Printer application, Scanner application, Web service/network application, NCS, R-Fax, DCS, UCS |

**- Exceptions -**

SP 5801 2 (basic machine) and SP 5998 1 (DDST machine) clears most of the settings and counters stored in the NVRAM on the BICU (the values return to their default values). However, the following settings are not cleared:

1. SP 5807 (Area Selection)
2. SP 5811 1 (Serial Num Input [Code Set])
3. SP 5811 3 (Serial Num Input [ID2 Code Display])
4. SP 5812 1 (Service TEL [Telephone])
5. SP 5812 2 (Service TEL [Facsimile])
6. SP 5907 (Plug & Play)
7. SP 7 (Data Log)
8. SP 8 (History)

Use SP 5802 2 (basic machine) or SP 5998 1 (DDST machine) after you have replaced the BICU NVRAM or when the BICU NVRAM data is corrupted. When the program ends normally, the message "Completed" shows. When you have replaced the controller NVRAM or when the controller NVRAM data is corrupted, use SP 5801 1. The message is the same as the basic machine.

**- With Flash Memory Card**

1. **Upload the NVRAM data to a flash memory card (☛ p.5-44).**
2. **Print out all SMC data lists (☛ p.5-52).**

   Note

   - Be sure to print out all the lists. You have to manually change the SP settings if the NVRAM data upload ends abnormally.
3. **Select SP 5801 2.**
4. **Press the OK key.**
5. **Select "Execute." The messages "Execute?" followed by "Cancel" and "Execute" shows.**
6. **Select "Execute."**
7. **When the program has ended normally, the message "Completed" shows. If the program has ended abnormally, an error message shows.**
8. **Press the cancel key.**
9. **Turn the main switch off and on.**
10. **Download the NVRAM data from a flash memory card (☛ p.5-44)**

**- Without Flash Memory Card -**

1. **Print out all SMC data lists (☛ p.5-52).**
2. **Select SP 5-801 (basic machine) or SP 5998 1**
3. **Press the OK key.**
4. **Select "Execute." The messages "Execute?" followed by "Cancel" and "Execute" show.**
5. **Select "Execute."**
6. **When the program has ended normally, the message "Completed" is displayed. If the program has ended abnormally, an error message shows.**
7. **Turn the main switch off and on.**
8. **Adjust the printer and scanner registration and magnification (☛ p.3-60).**
9. **Refer to the SMC lists, and enter any values that differ from the factory settings. Double-check the values for SP 4901.**
10. **Adjust the standard white level (SP 4428).**
11. **Initialize the TD sensor (SP 2214).**
12. **Check the copy quality and the paper path.**

## 5.3.5 INPUT CHECK (SP 5803)

**- Conducting an Input Check -**

1. **Select SP 5803.**
2. **Select the number (see the table below) corresponding to the component.**
3. **Select "Execute." The copy mode is activated.**
4. **The symbols "01H" or "00H" will show (see the table below to cross-reference these symbols).**

**- Input Check Table -**

| Num. | Sensor/Switch | 01H | 00H |
|---|---|---|---|
| 001 | Safety SW | Open | Closed |
| 002 | Safety SW-LD 5V | Open | Closed |
| 003 | Right Cover SW | Open | Closed |
| 004 | Right Low Cover SW | Open | Closed |
| 005 | Tray Cover SW | Open | Closed |
| 006 | Upper Relay S | Paper detected | Not detected |
| 007 | Lower Relay S | Paper detected | Not detected |

| Num. | Sensor/Switch | 01H | 00H |
|---|---|---|---|
| 008 | Vertical Trans S | Paper detected | Not detected |
| 009 | Registration Sensor | Paper detected | Not detected |
| 010 | Exit Sensor | Paper detected | Not detected |
| 011 | Duplex Inverter S | Paper detected | Not detected |
| 012 | Duplex Entrance S | Paper detected | Not detected |
| 013 | Duplex Exit S | Paper detected | Not detected |
| 014 | By-pass PE S | Paper detected | Not detected |
| 015 | By-pass P Size S | *1 | |
| 016 | Upper PE S | Paper detected | Not detected |
| 017 | Lower PE S | Paper detected | Not detected |
| 018 | Upper P Size SW | *1 | |
| 019 | Lower P Size SW | *1 | |
| 020 | BK-Upper Paper End S | Paper detected | Not detected |
| 021 | BK-Lower Paper End S | Paper detected | Not detected |
| 022 | BK-Up P Size SW | *1 | |
| 023 | BK-Low P Size SW | *1 | |
| 024 | BK-Up P Height S | *2 | |
| 025 | BK-Low P Height S | *2 | |
| 026 | BK-Upper Lift S | At upper limit | Not at upper limit |
| 028 | BK type | *3 | |
| 030 | Duplex Installed | Installed | Not installed |
| 031 | Lower Lift S | At upper limit | Not at upper limit |
| 032 | Main M Lock | Locked | Not locked |
| 033 | Polygon M Lock | Locked | Not locked |
| 034 | BK-Lift M Lock | Locked | Not locked |
| 035 | Total CO Install | Installed | Not installed |
| 036 | Key CO Install | Installed | Not installed |
| 037 | L-Synchronization | Detected | Not detected |
| 038 | DF-Position S | Detected | Not detected |
| 039 | DF-Cover Open S | Detected | Not detected |
| 040 | DF-Original Set S | Detected | Not detected |
| 041 | DF-Registration S | Detected | Not detected |
| 042 | DF-Exit S | Detected | Not detected |

| Num. | Sensor/Switch | 01H | 00H |
|---|---|---|---|
| 043 | DF-Trailing S | Detected | Not detected |
| 044 | DF-Reverse S | Detected | Not detected |
| 045 | Platen Cover S | Open | Closed |
| 046 | 1 bin Installed | Installed | Not installed |
| 047 | 1 bin Exit S | Paper detected | Not detected |
| 048 | 1 bin Paper S | Paper detected | Not detected |
| 049 | 1 bin Tray S | Open | Closed |
| 050 | Fan Motor Lock | High speed | Not high speed |
| 051 | 2 Tray BK Install | Installed | Not installed |
| 053 | HP Sensor | Detected | Not detected |
| 054 | Duplex Fan M Lock | Locked | Not locked |

Note

- *1 Paper Size

| Copier | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---|---|---|---|---|---|---|---|---|
| Europe | Not set | A4 LEF | 8Hx13 SEF | A4 SEF | A5 LEF | LT LEF | -- | A3 SEF |
| North America | Not set | A4 LEF | 8Hx13 SEF | LT SEF | LG SEF | LT LEF | -- | DLT SEF |
| China | Not set | A4 LEF | B5 LEF | A4 SEF | A5 LEF | B4 SEF | -- | A3 SEF |

| Paper Feed Unit | 00 | 01 | 03 | 04 | 05 | 0A | 0C | 0E | 0F |
|---|---|---|---|---|---|---|---|---|---|
| Europe | Not set | LT SEF | LG SEF | A4 LEF | -- | DLT SEF | A4 SEF | LT LEF | A3 SEF |
| North America | Not set | LT SEF | LG SEF | A4 LEF | -- | DLT SEF | A4 SEF | LT LEF | A3 SEF |
| China | Not set | LT SEF | LG SEF | A4 LEF | -- | DLT SEF | A4 SEF | LT LEF | A3 SEF |

| By-Pass Tray | 04 | 0C | 08 | 00 | 01 | 03 | 02 | 06 | |
|---|---|---|---|---|---|---|---|---|---|
| Europe | A5 SEF | A5 SEF | A5 SEF | A5 SEF | 8x13 SEF | A4 SEF | A3 SEF | A3 SEF | |
| North America | HLT SEF | HLT SEF | HLT SEF | HLT SEF | HLT SEF | LG SEF | DLT SEF | DLT SEF | |
| China | B6 SEF | B6 SEF | A5 SEF | A5 SEF | B5 SEF | A4 SEF | B4 SEF | A3 SEF | |

**- *2 Paper Amount -**

| | |
|---|---|
| 10 | Near end |
| 11 | About 25% |
| 00 | About 75% |
| 00 | About 100% |

**- *3 Available Paper Feed Unit -**

| | |
|---|---|
| 00 | None |
| 20 | 2-tray paper feed unit |
| 30 | 1-tray paper feed unit |

## 5.3.6 OUTPUT CHECK (SP 5804)

**- Conducting an Output Check –**

Note

- To prevent mechanical or electrical damage, do not keep an electrical component on for a long time.

1. **Select SP 5804.**
2. **Select the number (see the table below) corresponding to the component.**
3. **Select "ON."**
4. **To stop the operation, select "OFF."**

**- Output Check Table -**

Note

- Number 005, 006, 040, and 041 may not respond when the fusing temperature is high.

| Num. | Component |
|---|---|
| 001 | Main Motor Forward |
| 002 | Main Motor Reverse |
| 003 | Quenching Lamp |
| 004 | Toner Supply Motor Forward |
| 005 | Fan Motor High |
| 006 | Fan Motor Low |
| 007 | Registration Clutch |
| 008 | By-pass Feed Clutch |
| 009 | Upper Feed Clutch |
| 010 | Lower Feed Clutch |
| 011 | BK-Low Lift Motor Up |
| 012 | BK-Low Lift Motor Down |
| 013 | Relay Clutch |
| 014 | BK-Relay Clutch |
| 015 | BK-Upper Feed Clutch |
| 016 | BK-Lower Feed Clutch |
| 017 | BK-Lift Motor |
| 018 | BK-Up Lift Motor Up |

| Num. | Component |
|---|---|
| 019 | BK-Up Lift Motor Down |
| 020 | Duplex Inv Motor Reverse |
| 021 | Duplex Inv Motor Forward |
| 022 | Duplex Trans Motor |
| 023 | Duplex Gate Solenoid |
| 024 | Duplex Inv Motor Hold |
| 025 | Dup Trans Motor Hold |
| 026 | Polygon Motor |
| 027 | Polygon M/LD |
| 028 | LD |
| 029 | DF-Transport Motor |
| 030 | DF-Feed Motor |
| 031 | DF-Feed Clutch |
| 032 | DF-Pickup Solenoid |
| 033 | DF-Stamp Solenoid |
| 034 | DF-Gate Solenoid |
| 035 | 1 bin Gate Solenoid |
| 036 | 1 bin Tray Motor |
| 037 | 1 bin Tray Motor Hold |
| 038 | Fusing Solenoid |
| 040 | Duplex Fan Motor High |
| 041 | Duplex Fan Motor Low |

## 5.3.7 SERIAL NUMBER INPUT (SP 5811)

**- Specifying Characters -**

SP 5811 1 specifies the serial number. For the basic machine (the machine without the optional controller), you use the numeric keypad. For the DDST machine (the machine with the optional controller), you use the numeric keypad and the optional operation panel.

A serial number consists of 11 characters. You can change each character by pressing one of the first 11 keys on the numeric keypad (❶, ❷, ❸, ...❾, ⓪,❿).

For example, when you press the ❶ key, the first character of the serial number changes as follows:

0 ⇒ 1 ⇒ 2 ⇒ ... ⇒ 8 ⇒ 9 ⇒ A ⇒ B ⇒ ... ⇒ X ⇒ Y ⇒ Z.

When you press the ❷ key, the second character changes likewise.

You can specify a digit ("0" to "9") or a capital letter ("A" to "Z") for the first four characters of a serial number, and you can specify a digit in the other seven characters (not capital letters).

## 5.3.8 NVRAM DATA UPLOAD/DOWNLOAD (SP 5824/5825)

This procedure is for the basic machine only.

Note

- Make sure that you turn off the main switch before inserting or removing a flash memory card. Installing or removing a flash memory card while the main switch is on may damage the BICU or memory.

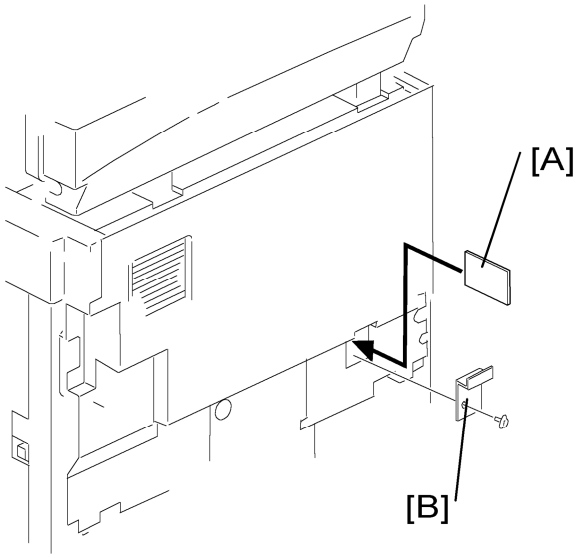
**- Overview -**

You can copy the data from the NVRAM to a flash memory card (NVRAM Upload), or from a flash memory card to the NVRAM (NVRAM download).

| | |
|---|---|
| SP 5824 1 (NVRAM Upload) | From the BICU to a flash memory card |
| SP 5825 1 (NVRAM Download) | From a flash memory card to the BICU |

You should execute NVRAM Upload before replacing the NVRAM or before executing SP 5801 2 (☛ p.5-37). You can copy back the data from the flash card to the NVRAM as necessary.

**- NVRAM Upload (SP 5824 1) -**




1. **Turn off the main switch.**
2. **Remove the card cover [B] (1 rivet).**
3. **Turn the face of the flash memory card [A] ("A" is printed on it) toward your left-hand side, and insert it into the card slot.**
4. **Turn on the main switch.**
5. **Start the SP mode and select SP 5824 1.**
6. **The machine erases the settings on the card (if any), then writes the machine's settings to the flash memory card. This takes about 20 seconds. If uploading fails, an error message appears. If an error message appears, retry the upload procedure.**
7. **Turn off the main switch.**
8. **Remove the memory card.**

**- NVRAM Download (SP 5825 1) -**

SP 5825 1 copies the data from the flash memory card to the NVRAM. The following data is NOT copied (the data in the NVRAM remains unchanged).

- SP 8221 1 (ADF Original Feed [Front])
- SP 8221 2 (ADF Original Feed [Back])
- SP 8381 1 (Total: Total Printer Pages)
- SP 8382 1 (Copy Application: Total Print Pages)
- SP 8391 1 (Large Size Print Pages [A3/DLT, Larger])
- SP 8411 1 (Prints Duplex)

1. **Turn off the main switch.**
2. **Remove the card cover [B] (1 rivet).**
3. **Turn the face of the flash memory card [A] ("A" is printed on it) toward your left-hand side, and insert it into the card slot.**
4. **Turn on the main switch.**
5. **Start the SP mode and select SP 5825 1.**
6. **The machine erases the current settings, then writes the new settings onto the NVRAM on the BICU board. This takes about 1 second. If downloading fails, an error message appears. If an error message appears, retry the download procedure.**
7. **Turn off the main switch.**
8. **Remove the memory card.**

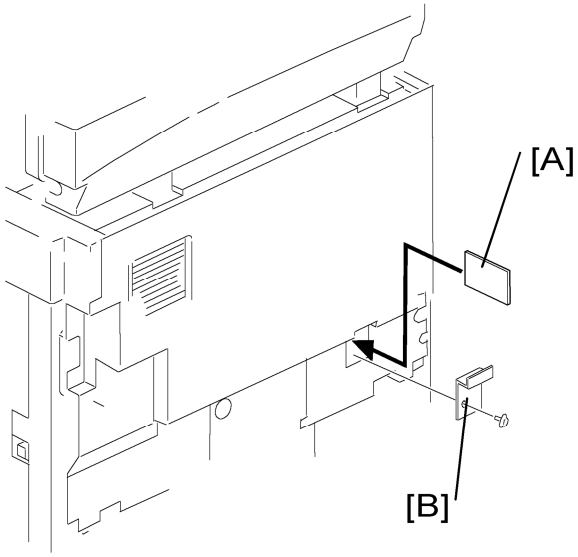
## 5.3.9 FIRMWARE UPDATE PROCEDURE

This section shows how to update the firmware.

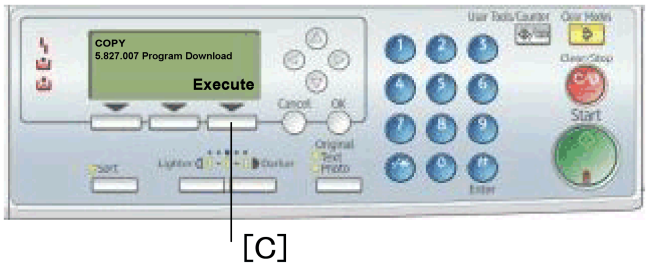
The machine has the following firmware programs

| Firmware Type | SP Mode | Version |
|---|---|---|
| Engine (BICU) | 7801 2 | B2435581 Ver 0.04 EXP |
| DDST (Printer/Scanner) | 7801 15 | A.001 |

**Engine (BICU) Firmware Update Procedure**




1. **Turn the main switch off.**
2. **Remove the card cover [B] (1 rivet).**
3. **Insert the flash memory card [A].**

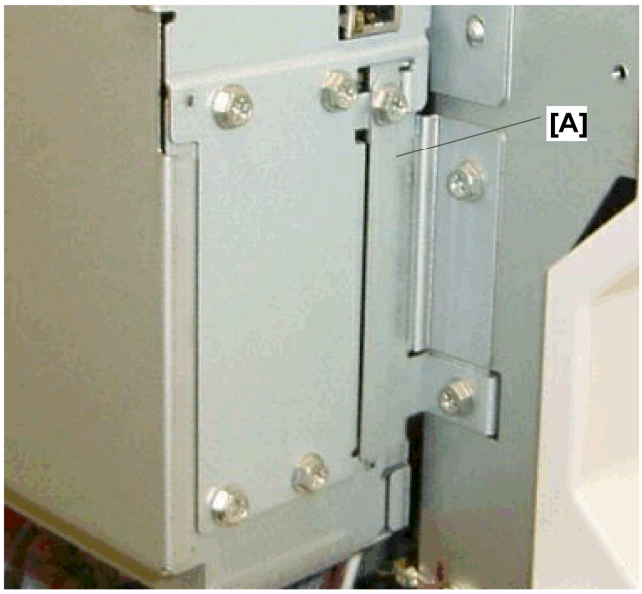



4. **Press down the power switch on the operation panel and hold it, and turn on the main switch.**
5. **Select "Execute" [C].**

6. **Do not touch any key while the message "Load Status..." shows. This message indicates that the program is running.**

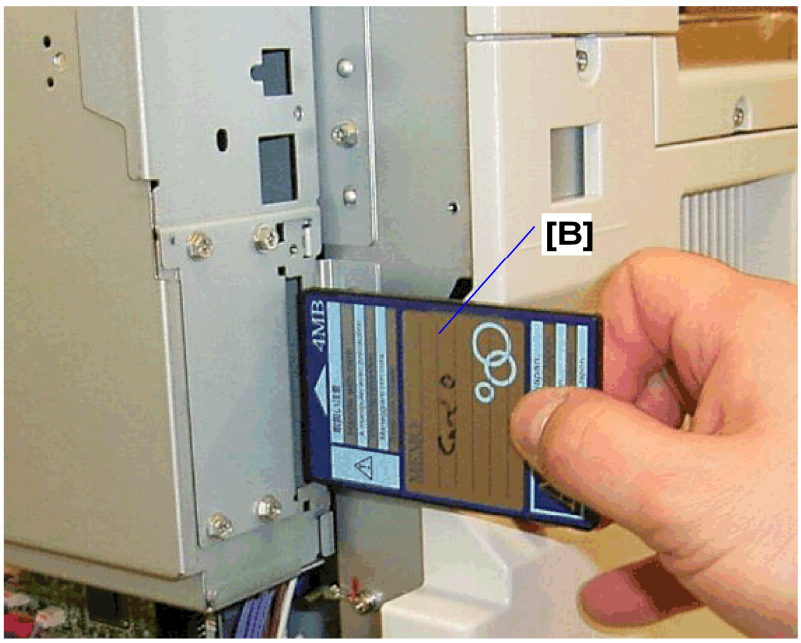
7. **Make sure the message "End Sum..." shows. This message indicates that the program has ended normally.**
8. **Turn off the main switch.**
9. **Remove the flash memory card.**
10. **Replace the card cover [B] (1 rivet).**
11. **Turn the main switch on.**
12. **Check the operation.**

### DDST (Printer Scanner) Update Procedure



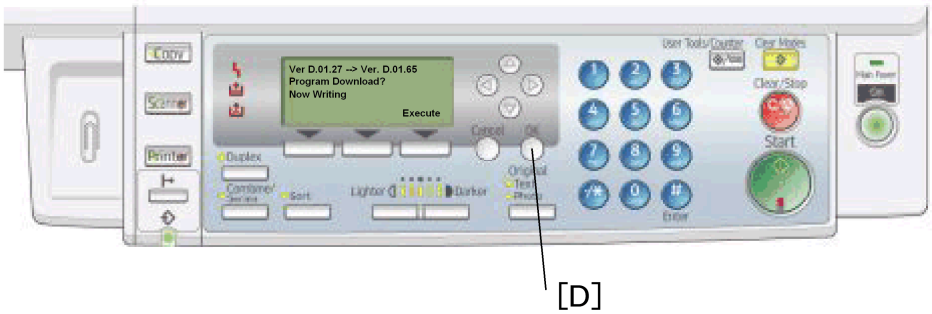

1. **Turn the main switch off.**

2. **Remove the slot cover [A] (1 x ).**

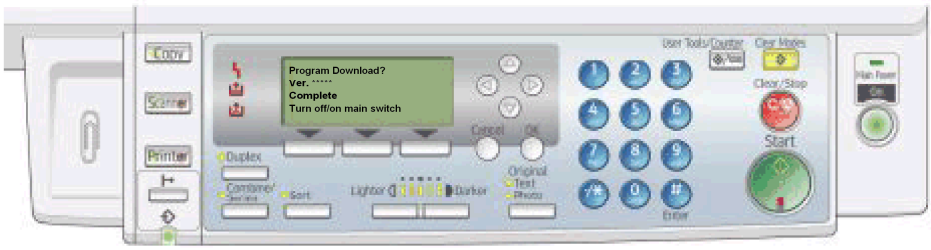



3. **Insert the flash memory card [B] as shown above.**

4. **Turn on the main power switch.**
5. **Push the printer application key [C].**




6. **Push the OK key [D] and then push Execute.**




Note

- Do not turn the machine off while the message “Now Writing” shows. This message indicates the program is running.
- Make sure the message “Completed” shows. This message indicates the program has successfully ended.

7. **Turn off the main switch.**
8. **Remove the flash memory card.**
9. **Replace the slot cover [A] (1 x ).**

## 5.3.10 TEST PATTERN PRINT (SP 5902 1)

**- Executing Test Pattern Printing -**

1. **Specify the pattern number and press the OK key.**
2. **Press the copy start key. The copy mode is activated**
3. **Specify copy settings and press the ⓪ key.**
4. **To return to the SP mode, press the ⓪ key.**

**- Test Patterns -**

| Test Patterns Using VCU | |
|---|---|
| **No.** | **Pattern** |
| 0 | (No print) |
| 1 | Vertical Lines (Single Dot) |
| 2 | Horizontal Lines (Single Dot) |
| 3 | Vertical Lines (Double Dot) |
| 4 | Horizontal Lines (Double Dot) |
| 5 | Grid Pattern (Single Dot) |
| 6 | Grid Pattern (Double Dot) |
| 7 | Alternating Dot Pattern |
| 8 | Isolated one dot |
| 9 | Black Band (Horizontal) |
| 10 | Trimming Area |
| 11 | Argyle Pattern (Single Dot) |
| 12 | Grayscales (Horizontal) |
| 13 | Grayscales (Vertical) |
| 14 | Grayscales (Vertical/Horizontal) |
| 15 | Grayscales (Vertical/Horizontal Overlay) |
| 16 | Grayscales With White Lines (Horizontal) |
| 17 | Grayscales with White Lines (Vertical) |
| 18 | Grayscales with White Lines (Vertical/Horizontal) |

| Test Patterns Using IPU | |
|---|---|
| No. | **Pattern** |
| 30 | Vertical Lines (Single Dot) |
| 31 | Horizontal Lines (Single Dot) |
| 32 | Vertical Lines (Double Dot) |
| 33 | Horizontal Lines (Double Dot) |
| 34 | Isolated Four Dots |
| 35 | Grid Pattern (Double Dot) |
| 36 | Black Band (Vertical, 1024 Dots) |
| 37 | Grayscales (Horizontal, 512 Dots) |
| 38 | Grayscales (Vertical, 256 Dots) |
| 39 | ID Patch |
| 40 | Cross |
| 41 | Argyle Pattern (128-Dot Pitch) |
| 42 | Square Gradation (64 Grades) |
| 43 | Square Gradation (256 Grades) |
| 44 | Grayscales (Horizontal, 32-Dot Width) |
| 45 | Grayscales (Vertical, 32-Dot Width) |
| 46 | Trimming Area (A3) |
| 47 | A4 Gradation Patches 1 (128 Grades) |
| 48 | A4 Gradation Patches 2 (128 Grades) |
| 49 | Trimming Area (A4) |

| Test Patterns Using SBU | |
|---|---|
| **No.** | **Pattern** |
| 51 | Grid Pattern (double dot) |
| 52 | Gray scale 1 (256 grades) |
| 53 | Gray scale 2 (256 grades) |

## 5.3.11 PAPER JAM COUNTERS (SP 7504)

The table below lists the menu numbers (the last three digits of SP 7504 XXX), and the paper jam timings and locations.

| Code | |
|---|---|
| 001 | Paper jam occurs at power on. |
| 010 | Paper does not reach the registration sensor (from a paper tray). |
| 011 | Paper does not reach the relay sensor. |
| 012 | Paper is caught at the relay sensor. |
| 021 | Paper does not reach the vertical transport sensor. |
| 022 | Paper is caught at the vertical transport sensor. |
| 031 | Paper does not reach the vertical transport sensor in the optional paper feed unit. |
| 032 | Paper is caught at the vertical transport sensor in the optional paper feed unit. |
| 050 | Paper does not reach the registration sensor (from the by-pass tray). |
| 060 | Paper does not reach the registration sensor during reverse-side printing (for duplex printing). |
| 070 | Paper is caught at the registration sensor. |
| 120 | Paper is caught at the exit sensor (previous page). |
| 121 | Paper does not reach the exit sensor. |
| 122 | Paper is caught at the exit sensor. |
| 123 | Paper does not reach the duplex inverter sensor (from the registration roller). |
| 125 | Paper is caught at the duplex inverter sensor. |
| 126 | Paper does not reach the duplex entrance sensor. |
| 127 | Paper is caught at the duplex entrance sensor. |
| 128 | Paper does not reach the duplex exit sensor. |
| 129 | Paper is caught at the duplex exit sensor. |
| 130 | Paper does not reach the one-bin tray. |
| 131 | Paper is caught at the one-bin tray. |

## 5.3.12 SMC PRINT (SP 5990)

SP 5990 outputs machine status lists.

1. **Select SP 5990.**
2. **Select a menu:**
   - Basic machine: 001 All, 002 SP, 003 UP, 004 Log, or 005 Big Font
   - DDST machine: 001 All (Data List), 002 SP (Mode Data List), 003 User Program, 004 Logging Data, 005 Diagnostic Report, 006 Non-Default, 007 NIB Summary, 008 Net File Log, 021 Copier User Program, 022 Scanner SP, 023 Scanner User Program, 040 Parts Alarm Counter Print, 064 Normal Count Print, 065 User Code Counter, 066 Key Operator Counter, 067 Contact List Print, 069 Heading1 print, 071 Heading3 print, 072 Group List Print, 128 ACC Pattern, 129 User Color Pattern, or 160:ACC Pattern Scan

   Note

   - The output given by the menu "Big Font" is suitable for faxing.
3. **Press the "Execute" key.**
   - Basic machine: The copy mode is activated.
   - Specify copy settings and press the ⓪ key. The machine status lists is output.
   - DDST machine: The machine status list is output.
4. **To return to the SP mode, press the ⓟ key.**

## 5.3.13 ORIGINAL JAM HISTORY DISPLAY (SP 7508)

**- Viewing the Copy Jam History -**

You can view the information on the most recent 10 events. The information on older events is deleted automatically.

Note

- The information on jam history is saved in the NVRAM.

1. **Select SP 7508.**
2. **Select one of the menu items ("Latest 1" through Latest 10").**
3. **Press the OK key. The summary of the jam history shows.**
4. **To view more information, select "Detail."**

### *Jam History Codes*

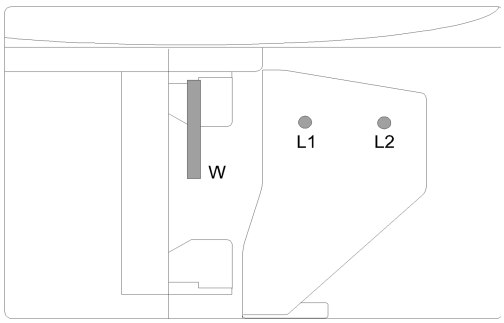
| Code | Meaning |
|---|---|
| 210 | Original does not reach the registration sensor. |
| 211 | Original caught at the registration sensor. |
| 212 | Original does not reach the original exit sensor. |
| 213 | Original caught at the original exit sensor. |
| 214 | Original does not reach the original reverse sensor. |
| 215 | Original caught at the original reverse sensor. |



## 5.3.14 ADF APS SENSOR OUTPUT DISPLAY (SP 6901)

**- Sensor Positions -**

| | Large to Small | | | |
|---|---|---|---|---|
| W1 | 1 | 0 | 0 | 1 |
| W2 | 0 | 0 | 1 | 1 |



**- Reading Data -**

| W1 | W2 | L1 | L2 | Paper Size | |
|---|---|---|---|---|---|
| | | | | NA | EU/AA |
| 0 | 0 | 0 | 0 | — | B5 LEF |
| 0 | 0 | 1 | 1 | 11" x 17" | B4 |
| 0 | 1 | 0 | 0 | $8^1/_2$" x $5^1/_2$" LEF | A5 LEF |
| 0 | 1 | 1 | 0 | $8^1/_2$" x 11" SEF | A4 SEF |
| 1 | 1 | 1 | 1 | $8^1/_2$" x 14" | $8^1/_2$" x 13" |
| 1 | 0 | 0 | 0 | 11" x $8^1/_2$" LEF | A4 LEF |
| 1 | 0 | 1 | 1 | 11" x 17" | A3 |
| 1 | 1 | 0 | 0 | $5^1/_2$" X $8^1/_2$" SEF | A5 SEF |
| 1 | 1 | 1 | 0 | — | B5 SEF |

1: Detected